

REMARKS/ARGUMENTS

Applicant thanks Examiner for the detailed Office Action dated March 9, 2006. In response to the issues raised, the Applicant offers the following submissions and amendments. Furthermore, we enclose a Terminal Disclaimer linking the term and ownership of any patent granted on the present application to that of co-pending USSN 10/773,201.

Amendments

Page 1 of the specification has been updated by removing the first paragraph at line 1 and replacing it with a paragraph entitled "Cross-Reference to Related Application". The Applicant submits that this amendment introduces no new matter.

The Abstract has been amended to remove 'claim-like' language such as 'comprising'.

Claims 1, 19 and 38 have been cancelled in favor of newly presented independent claims 55, 56 and 57. The new claims provide a more specific definition of the nozzle structures in order highlight the distinguishing features of the present invention.

The additional nozzle structures incorporated into the independent claims are shown in the embodiments described in the specification. Accordingly, the amendments do not introduce any new matter.

Abstract

As discussed above, we believe that the amended Abstract provides a clear and concise description of the disclosure in compliance with 37 CFR 1.72.

Double Patenting

Claims 1-54 stand provisionally rejected as not patentably distinct from claims 1-54 of co-pending USSN 10/773,201 in view of US 5,841,452. We trust the enclosed Terminal Disclaimer to '201 addresses this issue.

Claims – 35USC§103

Claims 1 and 19 *inter alia* stand rejected as obvious in light of US 5,706,041 to Kubby, in view of US 4,797,692 to Ims, in further view of US 4,794,410 to Taub et al. In response, claims 1 and 19 have been cancelled and substituted with new claims 55 and 56. The new claims incorporate structural features that condition the pressure pulse generated by the bubble to more efficiently eject the drop of ink. In particular, the nozzle opening having at least one axis of symmetry and the planar heater element having a parallel axis of symmetry.

The combined disclosures of the cited references fail to teach this combination of features. Similarly, they each fail to recognize the potential benefits and efficiencies to gained from conditioning the pressure pulse generated in the chamber. It follows that new independent claims 55 and 56 are patentably distinguished from the cited references.

The claims formerly depended from claims 1 or 19 have been amended to depend from claims 55 or 56. None of the additional references cited against the dependent claims teach all the features of the new independent claims and therefore the dependent claims. Accordingly, the dependent claims are likewise non-obvious.

Claim 38 stands rejected as obvious in view of Kubby, Ims, Mitani and Fukuchi. Pursuant to the above, claim 38 has been cancelled and substituted with claim 57. Claim 57 further defines the elements that assist the pressure pulse to eject the liquid drop more efficiently. Again the combined disclosures of the cited references do not teach the combination of elements defined by new claim 57 and so fail to render it obvious. Furthermore, the claims formerly dependent from claim 38 now depend from claim 57. As discussed above, the additional references cited against the dependent claims also fail to teach the additional features of the present invention. Accordingly, these claims are patentably distinguished from the cited prior art.

It is respectfully submitted that the Examiner's rejections have been successfully traversed and the application is now in condition for allowance. Accordingly, favorable reconsideration is courteously solicited.

Very respectfully,

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